15

ABSTRACT

The present invention provides a method to reduce the crosstalk between lines assigned to a

5 digital subscriber line (DSL) service or fat-pipe, which will then improve the signal to noise

ratio (SNR) and the line reach. It can also be used to assign multiple lines to a fat-pipe, where

the number of available lines to a fat-pipe customer is not enough for the corresponding

service. The service performance can be improved through interference management by

identifying those lines that are not strongly coupled, and thence assigning them to DSL

10 service or fat-pipe, instead of using lines that are already assigned to the plain old telephone

service and fat-pipe. The number of available lines for the fat-pipe customers can be

increased by using lines that have already been assigned to plain old telephone service

(POTS) customers, but which are not used for data transmission (DSL or fat-pipe service).

When a POTS customer's line is to be used for another customer's DSL or fat-pipe service, it

15 is required to use a low-pass filter on the POTS customer's line to prevent him/her from

having access to the DSL or fat-pipe customer's data, and a high-pass filter on the DSL or

fat-pipe customer's line to prevent him/her from having access to the voice signal on the line.

18

ABSTRACT

The present invention provides a method to reduce the crosstalk between lines assigned to a digital subscriber line (DSL) service or fat-pipe, which will then improve the signal to noise ratio (SNR) and the line reach. It can also be used to assign multiple lines to a fat-pipe, where the number of available lines to a fat-pipe customer is not enough for the corresponding service. The service performance can be improved through interference management by identifying those lines that are not strongly coupled, and thence assigning them to DSL service or fat-pipe, instead of using lines that are already assigned to the plain old telephone service and fat-pipe. The number of available lines for the fat-pipe customers can be increased by using lines that have already been assigned to plain old telephone service (POTS) customers, but which are not used for data transmission (DSL or fat-pipe service). When a POTS customer's line is to be used for another customer's DSL or fat-pipe service, it is required to use a low-pass filter on the POTS customer's line to prevent him/her from having access to the DSL or fat-pipe customer's data, and a high-pass filter on the DSL or fat-pipe customer's line to prevent him/her from having access to the voice signal on the line.